A Bimonthly Report from The Conference Board

INTERNATIONAL ECONOMIC SCOREBOARD

THE CONFERENCE BOARD

FEBRUARY 1980

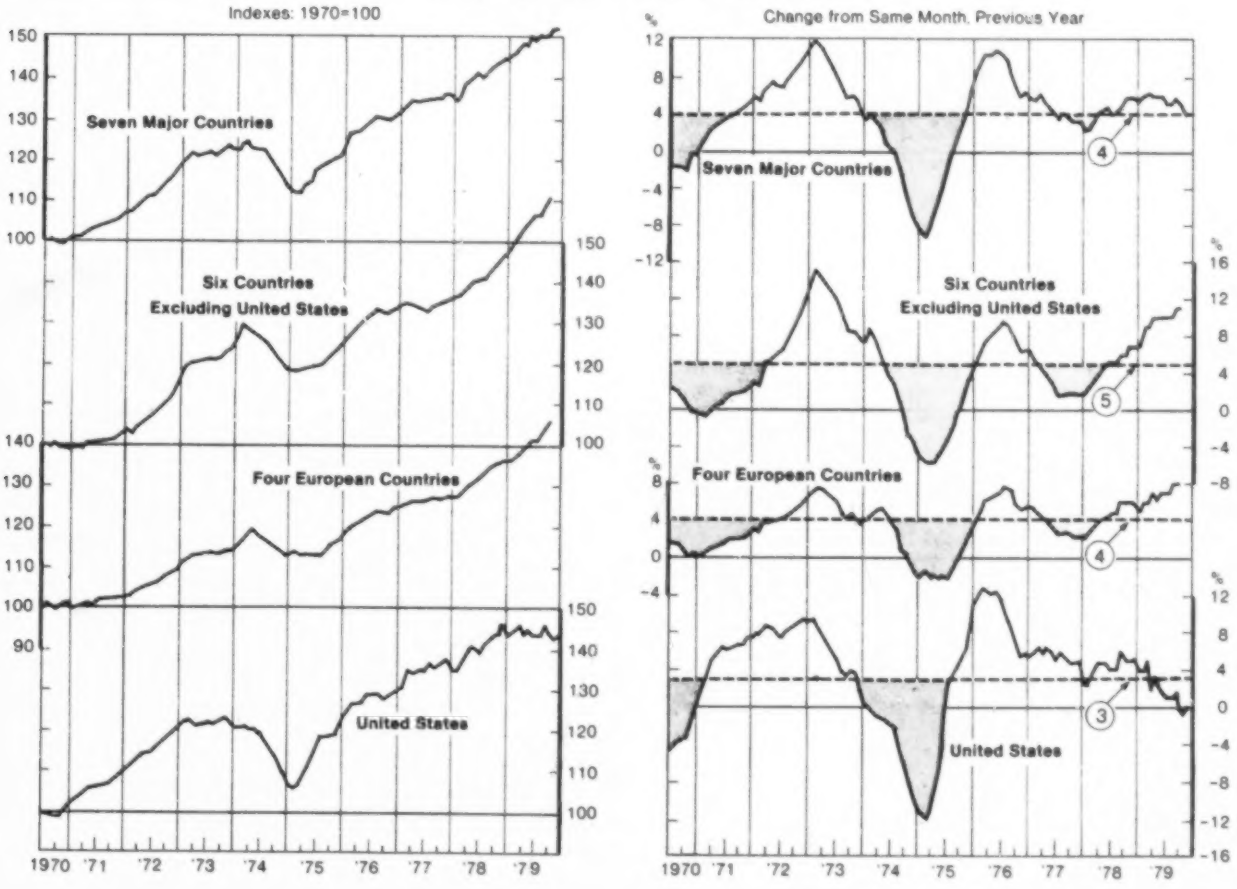
R4105-6

The leading indexes for six of the seven major industrial countries reached new highs in late 1979. The exception was the United States, where the leading index through December remained around the same level it had been all year. The indexes for the other six nations not only reached new highs, they also climbed faster than the long-run growth rate for each country.

These observations may sound familiar to readers of the *International Economic Scoreboard.* They are hardly different from those in the first issue last June. Then it was reported that while the leading indexes had been softening in the U. S., they had been speeding up abroad. The conclusion was reached that "this bodes well for U.S. exports and should mitigate some of the recessionary tendencies that have been developing in domestic markets." We had also suggested "an easing of inflationary pressures in the United States relative to those abroad."

Each of these implications, even the last, has been borne out by more recent developments. The real growth of U.S. exports accelerated to an annual rate of 14 percent in the second half of 1979. The rate of inflation (CPI), measured over a six-month span, increased less in the U.S. than in any of the other countries except Canada. In view of the current status of the leading indexes, the same statements about trends that were made in June still apply.

Leading Business Cycle Indexes


Indexes: 1970=100
Seven Major Countries
Six Countries Excluding United States
Four European Countries
United States
Change from Same Month, Previous Year
1970 '71 '72 '73 '74 '75 '76 '77 '78 '79

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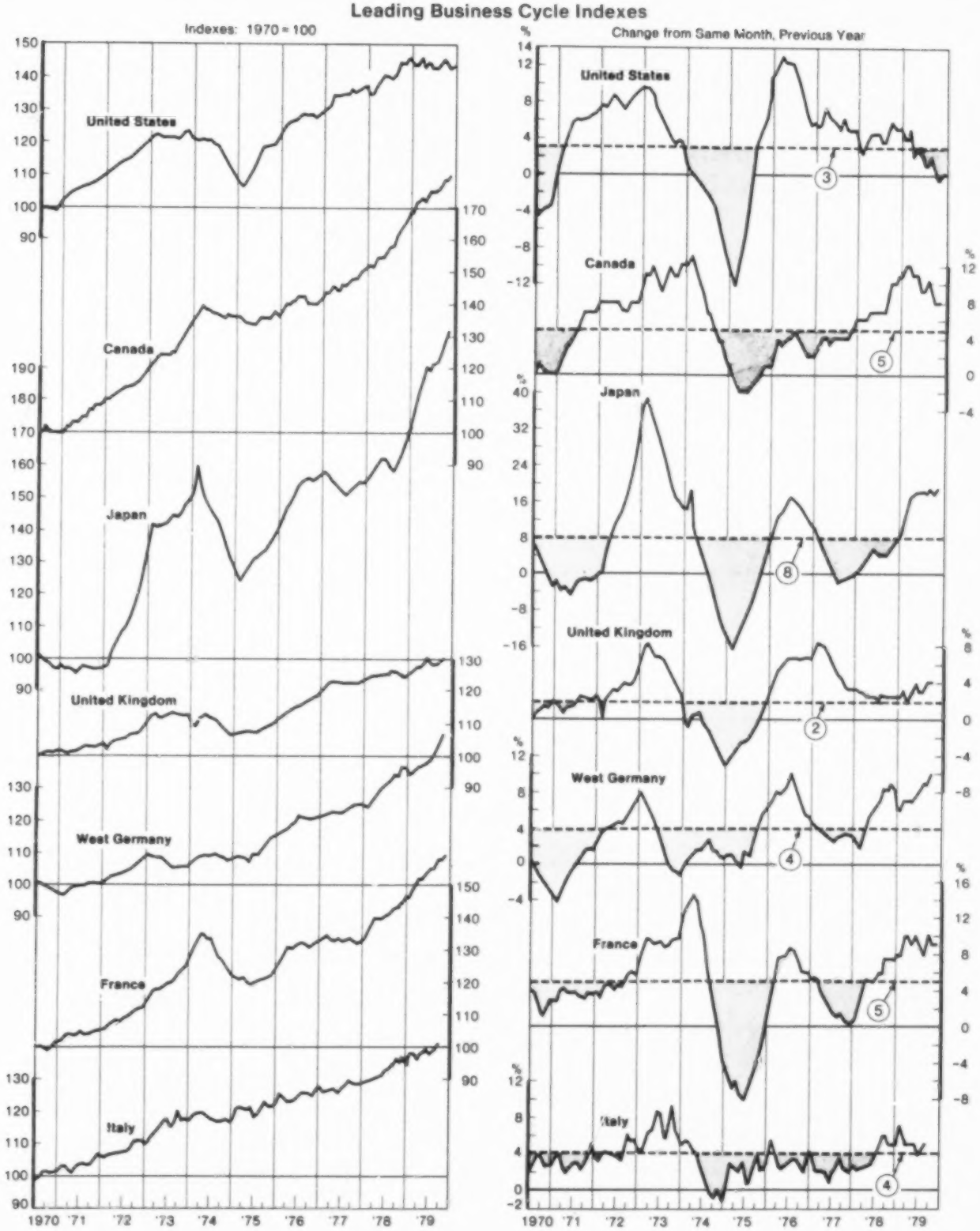
Leading Business Cycle Indexes



Note: For explanation, see back page.

Industrial Materials Prices as Leading Indicators

One of the reasons why the leading indexes for several countries, especially Japan, have been buoyant in recent months is that prices of industrial materials have been rising. An index of such prices is one of the constituents of the leading indexes, along with ten or so other component series. Is the rise in materials prices a favorable or an unfavorable sign? One can argue the matter either way. If demand is pulling these prices up, the rise is a sign of cyclical strength, and the increased cost of materials can be recouped in the prices of finished goods even while sales and output are rising. If supply shortages are the culprit, the added costs may become burdensome either to the producers or their customers and adversely affect the sale and output of finished goods.

The selection of an index of industrial materials prices as a leading indicator was based upon U.S. experience over a very long history. The sensitivity of the markets for metals, textiles, hides, rubber, and similar materials has been known for many years. Bradstreet's, one of the forerunners of Dun and Bradstreet, published an index of these prices from 1892 to 1937. The Bureau of Labor Statistics has compiled a weekly index covering 13 industrial materials since 1935, and of course the BLS monthly compilation of wholesale prices includes such materials (the most nearly equivalent published component is called "crude materials less agricultural products and energy".) During this long period these price indexes have conformed to the business cycle with great fidelity, rising during expansions and falling during contractions in the volume of business. Hence their behavior has been more consistent, as a rule, with the first of the alternative interpretations suggested above, than with the second.

Generally, the materials price indexes have been leaders of the business cycle; most of the time they have turned down shortly before a downturn in the economy and have turned up shortly before an upturn. The factors that lead to recessions, such as credit tightness, a profit squeeze, or an overhang of inventories, are noticed quickly by the buyers and sellers of materials and are registered in spot market prices often weeks before their consequences are recorded in production or employment. Developments abroad also affect these markets since the commodities are bought and sold in

Leading Indexes, Seven Countries, 1979

	U.S.	Canada	Japan	U.K.	West Germany	France	Italy	7 Countries	6 Countries ex. U.S.	4 Countries, Europe
					Indexes, 1970 = 100					
Jan. 79	144	169	172	125	134	146	135	146	148	136
Feb. 79	145	171	177	126	135	148	138	147	150	137
Mar. 79	146	173	181	127	136	150	138	149	152	138
Apr. 79	144	172	186	127	137	152	137	148	154	139
May 79	145	174	190	128	138	152	138	150	155	140
June 79	144	174	189	130	139	154	139	149	156	141
July 79	144	175	191	128	141	155	138	150	156	141
Aug. 79	144	176	192	128	143	155	139	150	158	142
Sept. 79	146	178	195	129	145	158	141	152	160	144
Oct. 79	144	178	197	130	147	158		152	161	146
Nov. 79	143	180	202			159		152		
Dec. 79	144									
					Percent Change from Preceding Year					
Jan. 79	4	11	10	1	6	8	5	5	7	5
Feb. 79	4	12	12	3	7	8	7	6	9	6
Mar. 79	5	12	14	2	7	10	6	7	9	6
Apr. 79	2	11	17	3	7	10	5	6	10	7
May 79	3	11	18	3	7	9	5	6	10	6
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July 79	1	9	18	3	8	9	4	5	10	7
Aug. 79	1	9	17	3	9	8	4	5	10	7
Sept. 79	2	10	18	4	9	10	5	6	11	8
Oct. 79	0	8	17	4	10	9		5	11	8
Nov. 79	−1	8	19			9		4		
Dec. 79	0									
					Ten-Year Annual Growth Rate, Percent					
1966-76	3	5	8	2	4	5	4	4	5	4

many countries. This is one way in which business cycles are transmitted internationally.

The sensitivity of materials prices also means that they respond to many other events or conditions, such as the prospect of a strike, an embargo, the actions of a monopolistic cartel, or a change in exchange rates. The price indexes that are actually available are also sensitive to the particular commodities that are included, and the list of commodities varies among countries. As a rule we have selected indexes that exclude fuels, but that has not always been possible. The enormous recent run-up in fuel prices has had a substantial effect upon the Japanese raw materials index, in which fuels receive a substantial weight. Hence the rapid rise in our leading index for Japan during 1979 is partly attributable to this factor, and partly to the appreciation of the yen. This is no doubt one instance where price changes that have adverse consequences for real growth are, for the time being, pushing an economic index up. Thus the rise in the leading index for Japan should be discounted to some extent. It should be noted, however, that many of the other components of the Japanese index are also helping to push it up.

There are several morals to this story. One is to strive for greater understanding of the differences in the statistics for different countries, as well as for improvement in their comparability. Another is to be alert to exceptions to the rule, and try to avoid being deceived by them. Finally, we must be aware of the long history of economic measurements, especially prices, under a variety of conditions, and use that perspective in analyzing today's figures.

THE INTERNATIONAL ECONOMIC INDICATOR SYSTEM

This bimonthly Conference Board report on the business outlook in seven major industrial countries is based on an analytical system of leading, coincident and lagging indicators, first developed in the 1930's by the National Bureau of Economic Research, which has become widely used in the United States to appraise the state of the business cycle. Since 1961 U.S. figures for these indicators have been published monthly by the U.S. Department of Commerce in *Business Conditions Digest*. Similar systems have been developed in Canada, Japan, the United Kingdom and a few other countries, but because of differences in content or methodology the results are not closely comparable. In an effort to establish greater comparability and broaden the coverage, a new set of indicators for seven major industrial countries was recently developed by Geoffrey H. Moore of the NBER and Philip A. Klein of Pennsylvania State University. They are being kept up to date, analyzed, and circulated to subscribers by the Center for International Business Cycle Research at Rutgers University in Newark, New Jersery.

The leading indexes shown here are composites based on a total of some 65 indicators that usually anticipate changes in national output or employment by several months. New orders, contracts for construction, corporate profits, stock prices, new business enterprises or business failures, and changes in consumer debt are among the indicators included for each country whenever available. (The U.S. leading index used here differs somewhat in composition from the index reported monthly by the U.S. Department of Commerce.) Experience has demonstrated that these indicators are helpful in tracking an economic recession or recovery, in revealing factors that are retarding expansion or leading to recession, in anticipating changes in foreign trade flows, and in providing early warning of new inflationary trends. To facilitate analysis the indexes shown in the charts are adjusted so that their long-run growth rates are equal to those in real GNP in the country concerned during 1966-76 (shown at the bottom of the table and by horizontal lines on the charts; the growth rate for each index is encircled on the chart).

For More Information

To find out more about this indicator system and its uses, and about the availability of the current data, please address inquiries to

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INTERNATIONAL ECONOMIC SCOREBOARD

THE CONFERENCE BOARD

APRIL 1980

R-4105-6

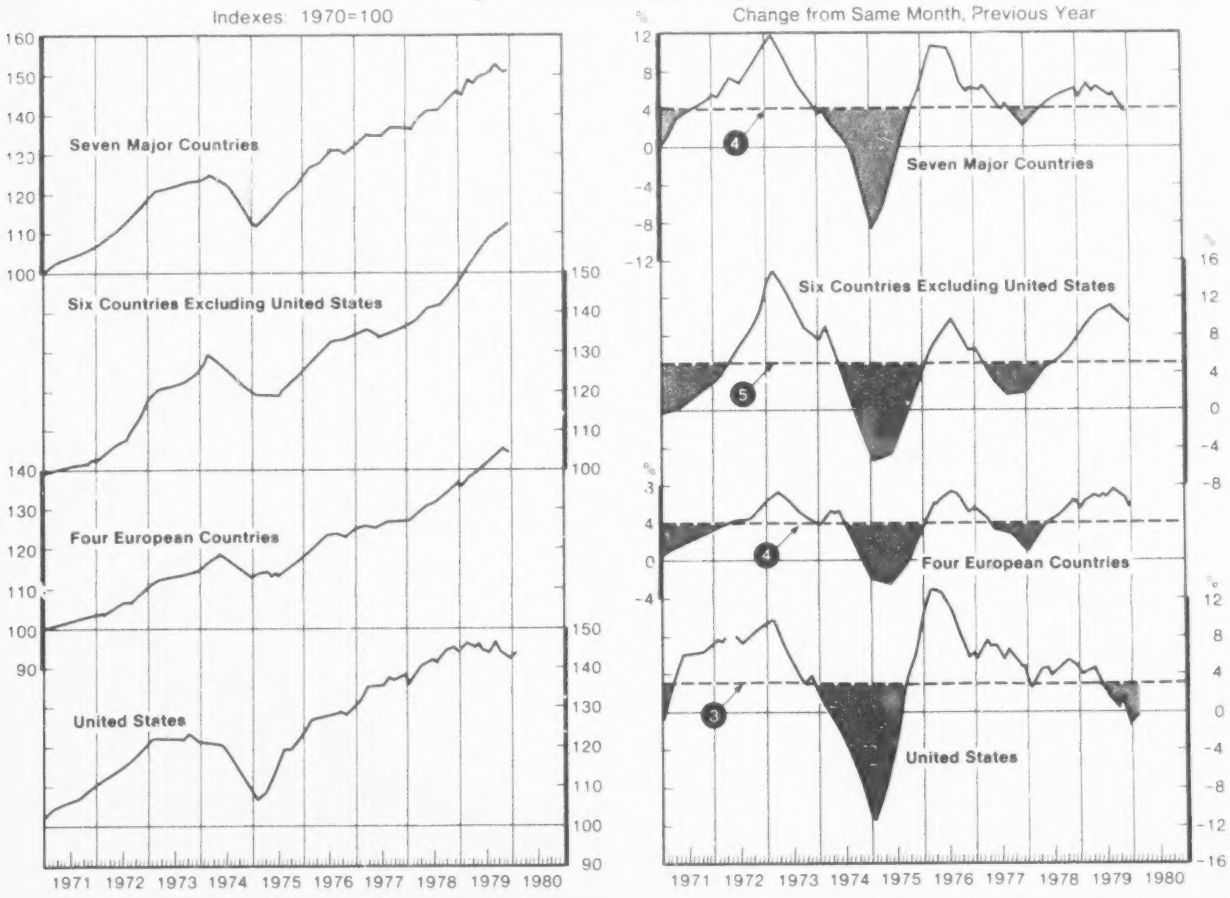
SUSTAINED GROWTH IN EXPORTS

Over the past year, the leading indexes of business activity have continued to rise in most of the major industrial countries. The exceptions are the United States and The United Kingdom, where the composite indexes have leveled off. In the other five major economies, however, the leading indicators have been climbing faster than their historical growth rates (see accompanying charts and table). As noted in previous issues of this report, growth in the leading indexes augers for continued growth in the exports of these countries. This ability of the leaders to anticipate the growth of exports is documented by a recently completed study based on the United Nations' index of the physical volume of exports of the developed market economies. Seventy-two percent of the total exports of this group of 27 countries in 1978 was exported by the seven countries covered by the *Scoreboard* indexes. In view of this large fraction, it is of interest to know how well the composite leading index for the seven forecasts the total exports of the entire group. To answer this question, we relate the percent change in the leading index over the preceding year (i.e., December to December) to the year to year percentage change in export quantity. The diagram on page 3 shows the relationship, with the leading index change to December plotted one year ahead.

The fluctuations in export growth are closely related to the preceding fluctuations in the leading index,

(text continued on page 4)

Leading Business Cycle Indexes



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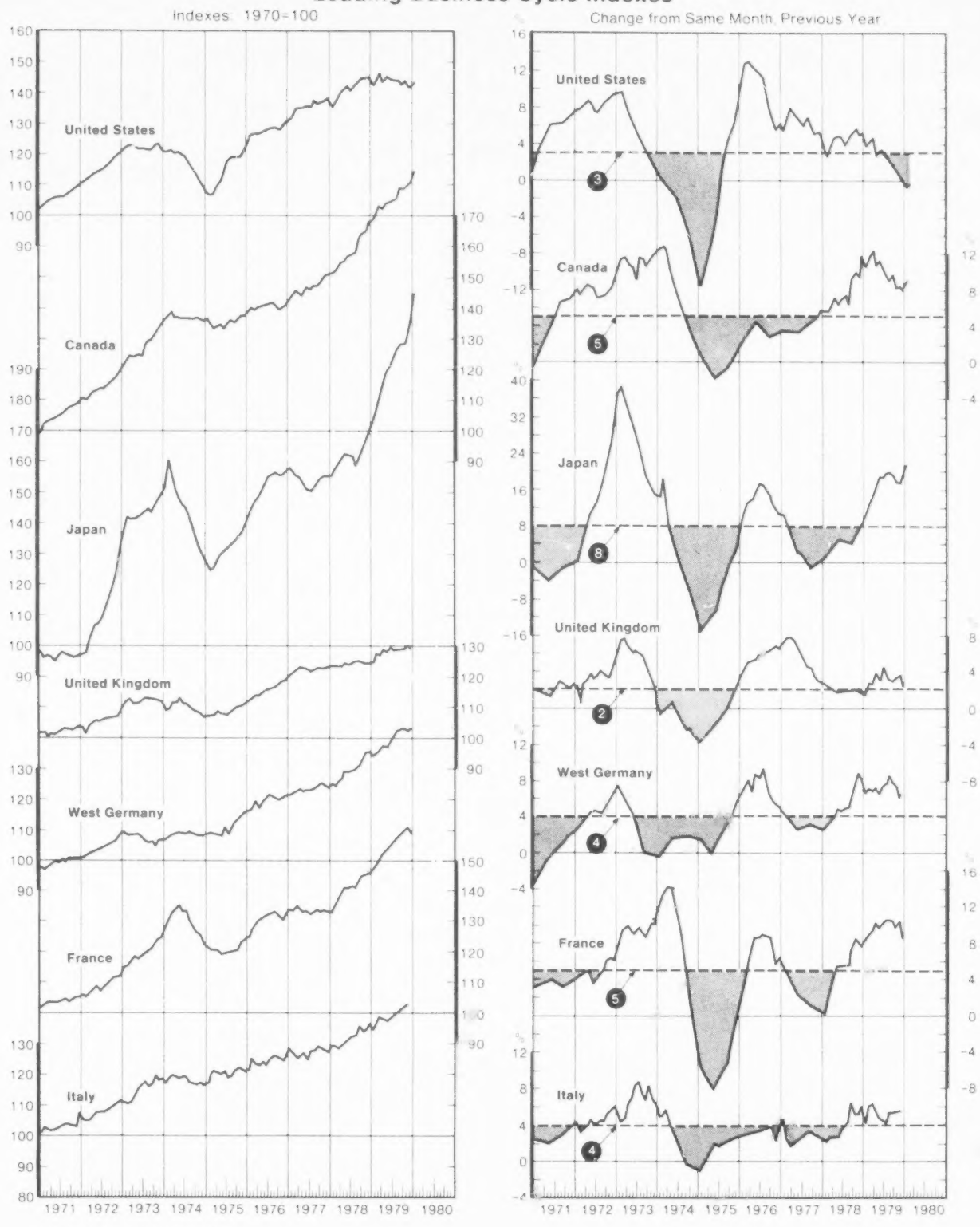
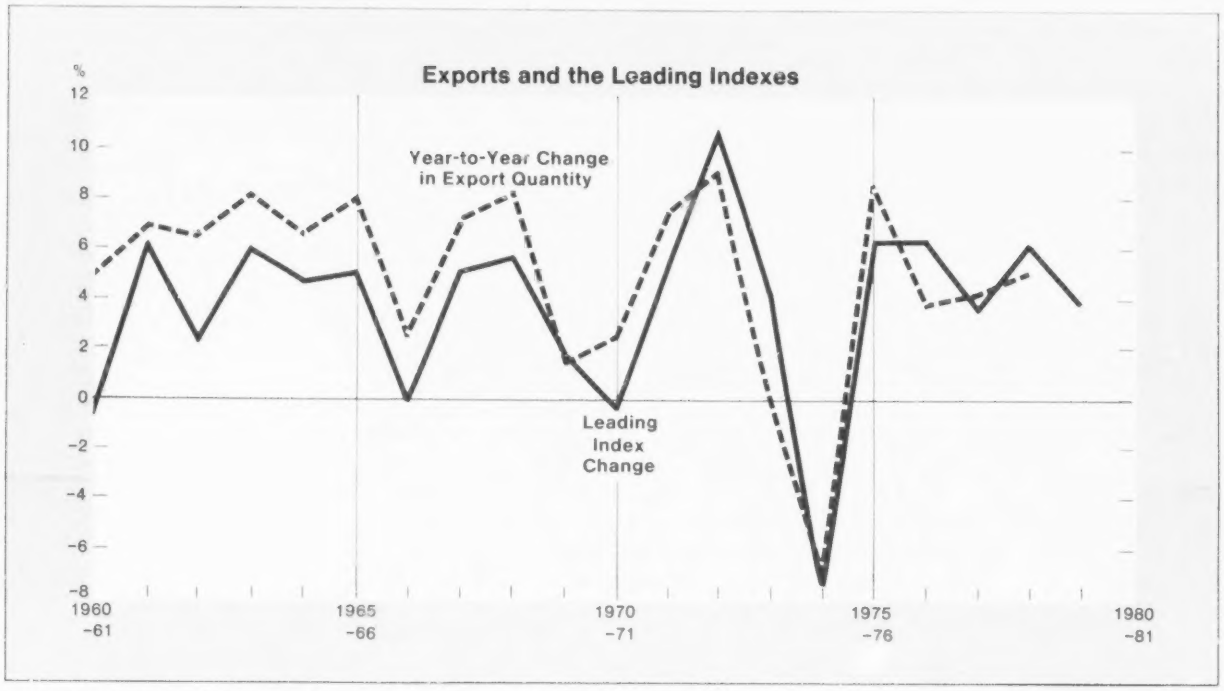
Leading Business Cycle Indexes



Note: For explanation, see back page



Note: Leading index change is the December-to-December change for the previous year in the composite index for seven countries.

Source: Export Quantity Index, United Nations Monthly Bulletin of Statistics.

Leading Indexes, Seven Countries, 1979

		Canada	Japan	U.K.	West Germany	France	Italy	7 Countries	6 Countries ex. U.S.	4 Countries Europe
					Indexes, 1970 = 100					
Jan.	79	144	169	173	125	134	147	135	146	148	136
Feb.	79	145	171	178	127	136	149	138	147	150	138
Mar.	79	146	173	181	127	136	150	138	149	152	138
Apr.	79	144	172	185	129	137	152	138	148	154	139
May	79	146	174	189	128	138	153	138	150	155	140
June	79	144	175	191	130	139	154	138	150	156	141
July	79	144	175	195	129	141	156	138	150	158	142
Aug.	79	144	176	197	129	143	157	140	151	159	143
Sept.	79	146	178	198	129	143	159	141	152	160	144
Oct.	79	144	178	198	129	143	159	142	151	160	144
Nov.	79	142	180	200	130	142	161	143	151	161	144
Dec.	79	142	181	206	129	143	160		152	163	144
Jan.	80	144	184	214							
Feb.	80	144									
					Percent Change from Preceding Year						
Jan.	79	4	11	10	2	7	8	4	5	7	6
Feb.	79	4	12	13	3	7	9	6	6	9	6
Mar.	79	5	12	14	3	7	9	6	7	9	7
Apr.	79	3	11	16	4	7	10	6	6	10	7
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July	79	1	10	20	3	8	10	4	5	11	7
Aug.	79	1	9	20	3	9	10	5	6	11	7
Sept.	79	2	10	19	3	8	10	5	5	11	7
Oct.	79	0	8	18	3	8	10	5	4	10	7
Nov.	79	—1	8	18	3	6	10	5	4	10	7
Dec.	79	—1	8	19	2	6	8		4	10	6
Jan.	80	—1	9	22							
Feb.	80	0									
					Ten-Year Annual Growth Rate, Percent						
1966-76		3	5	8	2	4	5	4	4	5	4

although in the period up to 1972 there was a noticeable tendency for exports to rise more rapidly than the leading index. Since 1972, the growth rates have been about equal. The December 1979 figure for the leading index (4 percent) suggests a gain of about that magnitude in the physical volume of exports of the developed market economies. This is a bit less than the gain in 1979, but well above the depressed export years of 1974 and 1975.

Current Developments—Money Down, Interest Rates Up

The U.S. leading index drifted sideways in February, neither confirming nor refuting the hypothesis that a recession is at hand. As noted in a previous *Scoreboard*, our U.S. index has been presenting a more favorable picture than the leading index issued by the Department of Commerce. The main reason for this is that the Commerce index includes two monetary series that ours does not, and both of them have been giving a decided negative slant to the Commerce index during the past six months or so. One of these series is the money supply (M2) expressed in real terms, and this has been going down partly because of a slower growth in the money stock but mainly because of the rapid rise in the consumer price index, which is divided into the money stock to convert it to "real" dollars. With questions being raised about the dominant effect on the CPI of the rise in mortgage interest rates and about the various alternative definitions of the money supply, it is difficult to say how much significance to attach to the decline in the real money stock. The other monetary series included in the Commerce index is the percentage change in total liquid assets. This is not deflated, and since it is very comprehensive there is less question about what it includes. Unfortunately, it is also one of the more volatile indicators, which makes it difficult to tell when it may be giving a false signal. The upshot is that two of the most depressed indicators in the Commerce index are beset with question marks. Among the other indicators, through February, no consensus has developed, though serious weakness has hit some sectors, such as housing and autos. The February data, of course, do not reflect any consequences of the further changes in credit and fiscal policy taken in March.

The decisive movement in the U.S. indicators so far has been in the lagging rather than the leading group, with sharp increases in interest rates dominating the scene and becoming even sharper in March. At this stage of the business cycle, such increases have usually had depressing effects on the leading indicators—witness housing starts. By making inventories more expensive to hold, higher interest rates retard inventory building and accelerate their liquidation, with consequences showing up in new orders and in industrial materials prices. The latter have already begun to soften.

The upward trend in interest rates has become worldwide, partly as a consequence of the general increase in the rate of inflation. This development makes declines in the leading indicators more likely, yet based on data presently available, the leading indexes for most countries show more strength than weakness. Note, however, the U.K. index, which has been flat since April 1979, and the West German index, which has been flat since August. Now more than ever it is important to be alert for signs of the effects of the upsurge in the cost of credit.

For More Information

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INTERNATIONAL ECONOMIC SCOREBOARD

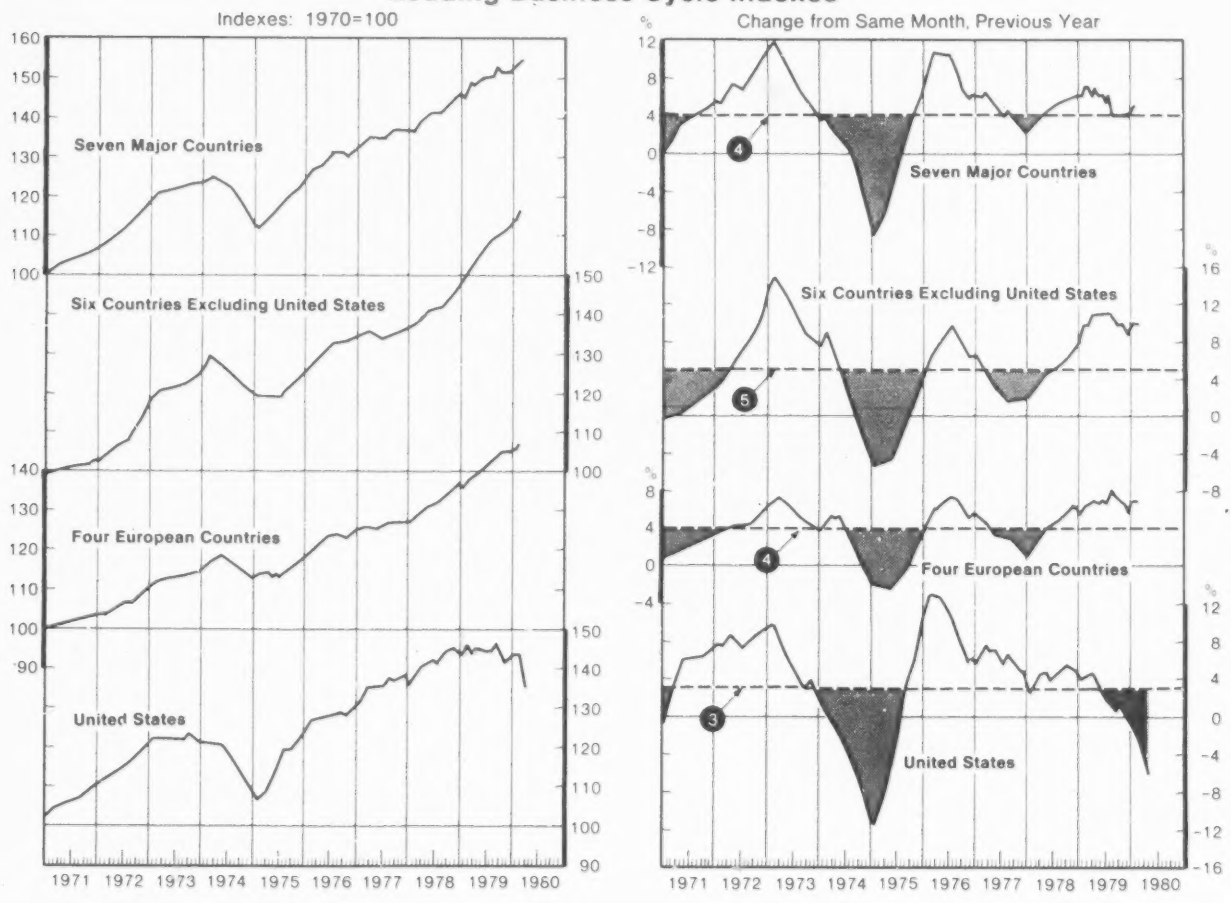
THE CONFERENCE BOARD

JUNE 1980

SUMMARY

- The U.S. leading index continues its sharp decline. Although still well within the range of postwar experience, this drop is now of a magnitude to suggest a recession of more-than-average severity.
- In Canada, the leaders rose smartly to a new high in January and February, but dropped sharply in March.
- In other major industrial countries, the leading indexes have maintained their strength and thus point toward further economic expansion in the months ahead.

Leading Business Cycle Indexes


Indexes: 1970=100
Seven Major Countries
Six Countries Excluding United States
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1971 1972 1973 1974 1975 1976 1977 1978 1979 1960
% Change from Same Month, Previous Year
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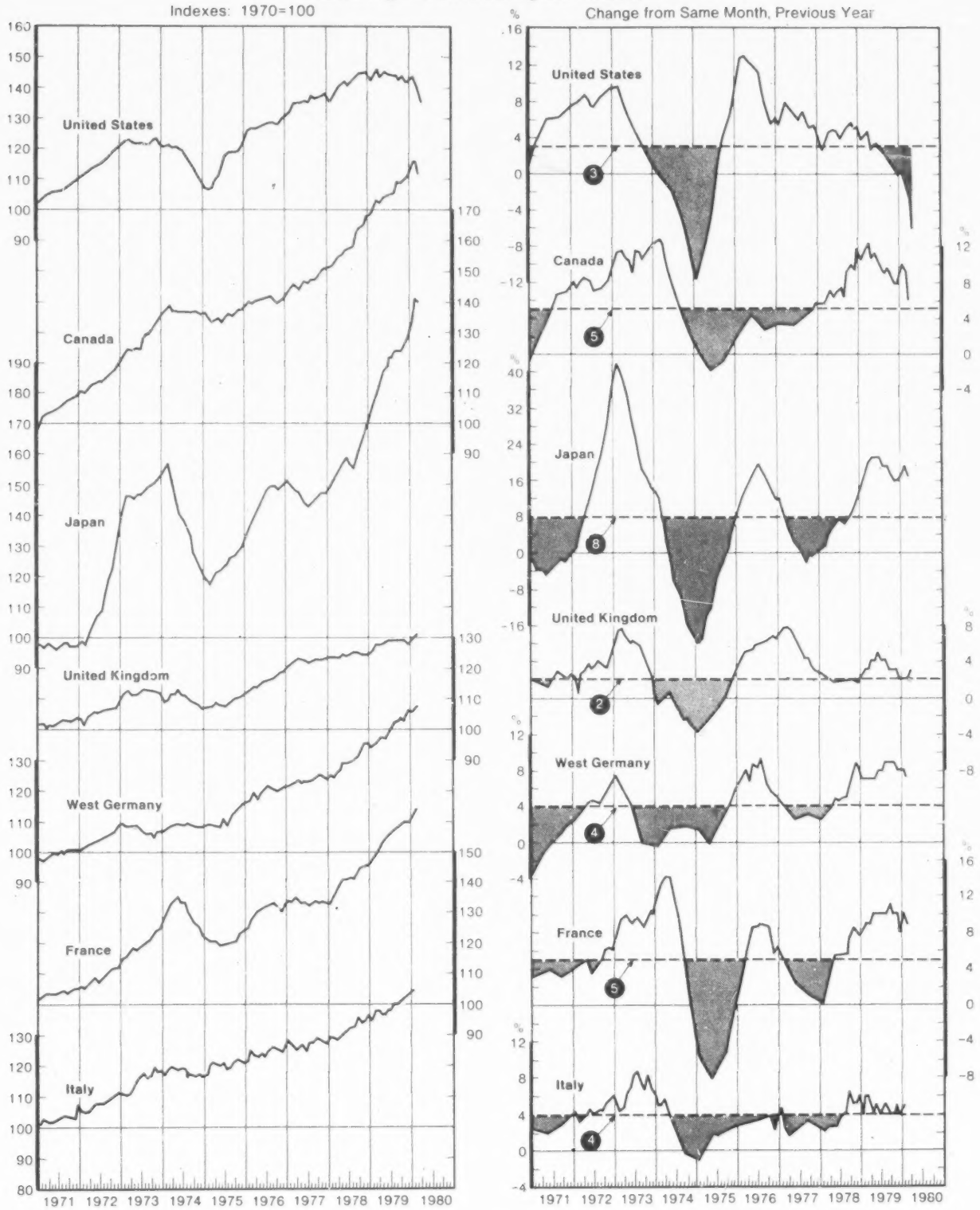
Leading Business Cycle Indexes



Note For explanation, see back page

Weakness at Home, Strength Abroad

The sharp decline in the U.S. leading index in April, coming on top of its earlier weakness, brought its twelve-month rate of change down to -6%. This is the biggest drop since the recession of 1973-75, and confirms the continued dominance of recessionary forces in the economy.

In the mild recessions of 1960-61 and 1969-70, this rate reached -5% at its lowest point. In the sharper postwar recessions—those of 1948-49, 1953-54, 1957-58 and 1973-75—the rate reached lows of -10, -8, -8, and -12%, respectively. Hence the current decline to date, though still well within the range of postwar experience, has already exceeded that reached in the two mild recessions, suggesting that a downturn of more-than-average severity is in store.

In contrast with the deteriorating U.S. situation, the leading indexes for the six other major industrial countries continued to move up in the early months of 1980. The latest twelve-month growth rates are all positive, at 6% for Canada, 3% for the United Kingdom, 7% for West Germany, 9% for France, 5% for Italy, and 17% for Japan. Taking all six countries together, the rate of change continues to rise within a point of the fastest rate that prevailed over the past year (right-hand chart, page 1). This pattern holds in a general way for each country individually, except for Canada. The Canadian leading index declined sharply in March from its high in January and February. Although this change of direction is thus far only one month in duration, it suggests that the Canadian pattern could begin to resemble that of the U.S. The leading indexes in the other countries, however, are still pointing to continued growth rather than recession.

All this implies that the strength in U.S. export markets will continue for a while to offset some of the decline in U.S. domestic markets but, at the same time, the U.S. downswing will lead to softer markets here for the exports of other countries. Naturally the situation will vary from country to country, with the effect of the U.S. recession being greatest on countries, such as Canada, that depend most heavily on the U.S. market. That is to say, a decline in U.S. demand for imported

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Feb. 80	0	9	19	3	7	9		5	10	7
Mar. 80	−3	6	17							
Apr. 80	−6									
					Ten-Year Annual Growth Rate, Percent					
1966-76	3	5	9	2	4	5	4	4	5	4

materials and other products, unless offset by increases elsewhere, can trigger cutbacks in output and employment in the originating countries. This is one of the principal ways recessions spread from one country to another, and why a U.S. recession is of worldwide concern. The leading indexes for the countries covered in this report, however, have not yet signaled that this recessionary process is spreading, except for the very recent disquieting decline in the leading index of Canada.

Statistical note: The leading index for Japan has been revised because of a change in one of the component series. Foodstuffs, fuel and power were removed from the commodities included in the Japanese index of raw materials prices. This idea was discussed in the February issue of this publication and, as suggested then, the change results in a slightly slower rise in the leading index. Nevertheless with a 17% advance from a year ago, the index is still giving off a strong signal of continued expansion in the Japanese economy.

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AUGUST 1980

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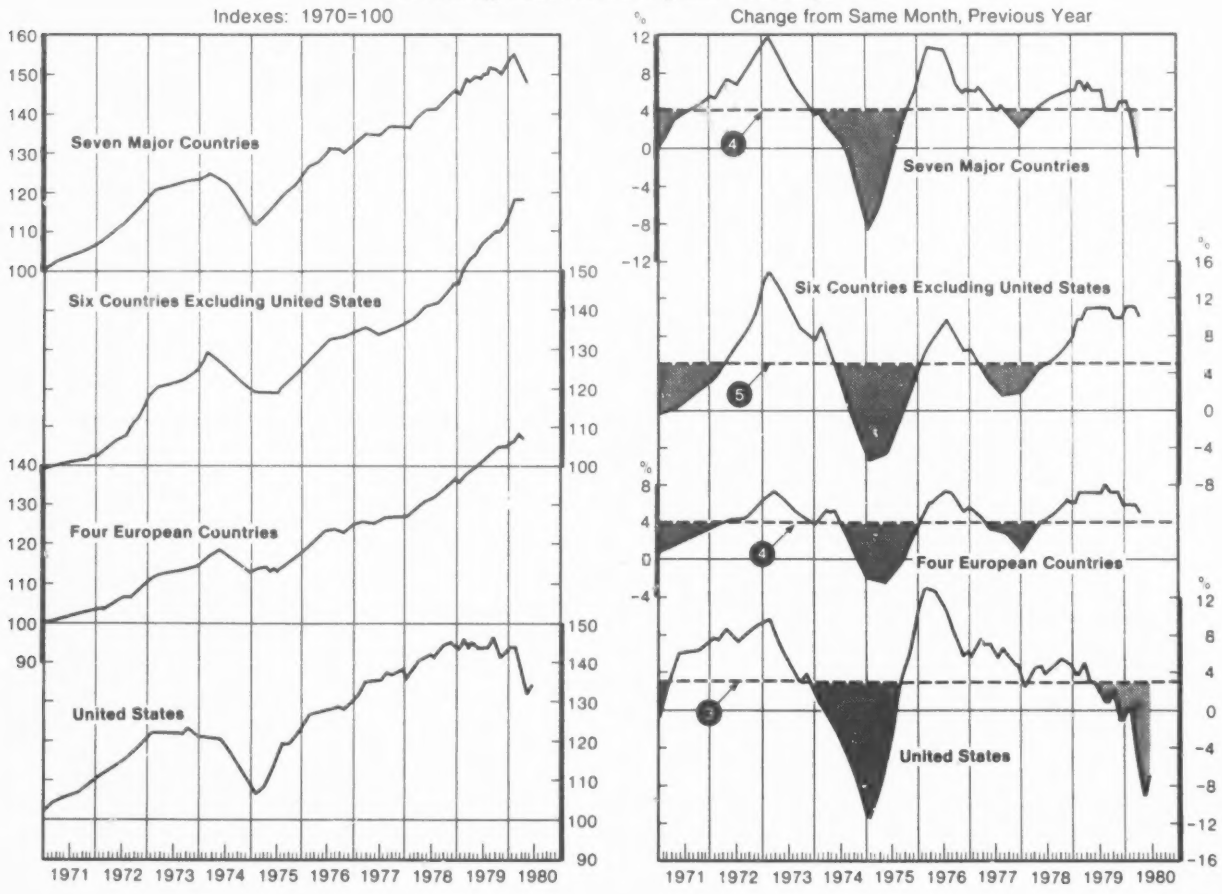
SUMMARY

- The leading index for the United States turned upward in June. This is an encouraging sign, but not enough to provide a sure signal that recovery is starting. The U.S. index continues to be more depressed than the leading indexes of any other country; from its high last September the U.S. index has dropped 8%.
- Some weakness is evident for the Canadian and British economies. In Canada, where the leading index reached its high in January, a decline of 2% had been registered by May. The leading index for the United Kingdom is also down about 2%.
- In West Germany, France, Italy and Japan the leading indicators have leveled off in the most recent months (April or May) but have yet to show much weakness.

Leading Business Cycle Indexes


Indexes: 1970=100
Change from Same Month, Previous Year
Seven Major Countries
Six Countries Excluding United States
Four European Countries
United States
1971 1972 1973 1974 1975 1976 1977 1978 1979 1980

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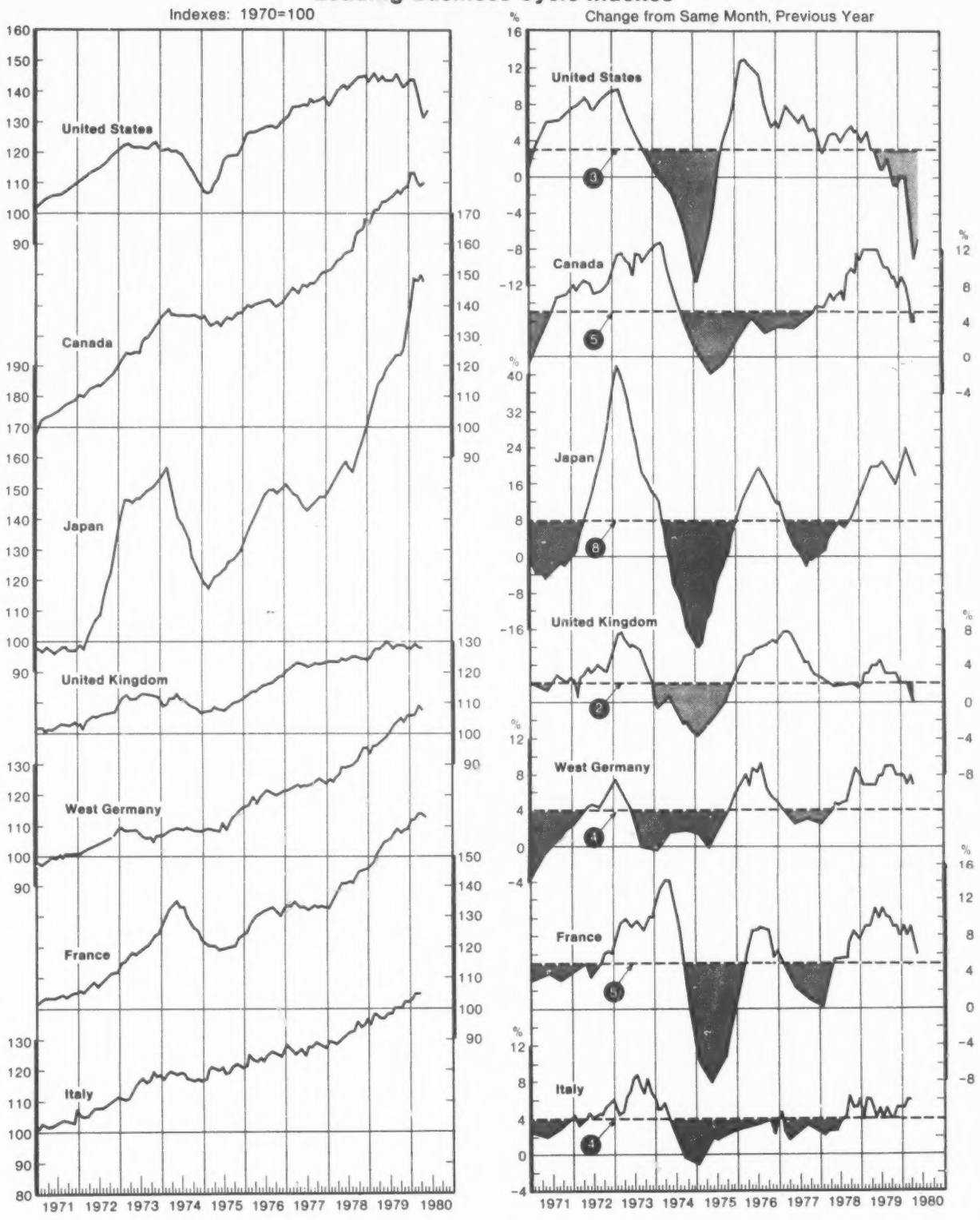
Leading Business Cycle Indexes



Note: For explanation, see back page.

Signals of Recession and Recovery

A new method of identifying the start and end of recessions has been developed by the Center for International Business Cycle Research at Rutgers University. The method uses three signals that normally occur in sequence and which are of increasing reliability in diagnosing a condition of recession. The signals are defined by the joint action of an early warning (leading) index and an index of economic performance (coincident), covering substantially the same processes in each country. The statistics used in the signals are the rate of change in each index calculated by comparing the current month's index with its average during the immediately preceding 12 months. The three signals of the start of recession are defined as follows:

- The first alarm is sounded when the leading index for a country stops rising faster than its long-run trend rate.
- The second signal is registered when the leading index is declining and the coincident index is no longer rising as fast as its long-run growth trend.
- The third and final signal comes when both indexes are falling.

At present, all three signals, the last occurring in March 1980, confirm that the United States and the United Kingdom are in recession, while Canada and France have passed the first signpost. In West Germany, Italy and Japan the data upon which the signals are based have not produced a recession signal.

In the current U.S. business cycle, which reached its peak in January 1980, the first signal of recession was given by the figures for April 1979. The second warning was given by the indexes for July of last year, and the final signal came with the March 1980 data.

This pattern is generally consistent with previous U.S. experience. Historically, the first signal is likely to occur several months before a recession starts, although that signal may be followed only by a slowdown in the growth of total economic activity rather than a decline. The second signal is likely to be observed at about the

Leading Indexes, Seven Countries, 1979-80

		U.S.	Canada	Japan	U.K.	West Germany	France	Italy	7 Countries	6 Countries ex U.S.	4 Countries Europe
						Indexes, 1970 = 100					
Jan.	79	144	167	172	125	134	147	135	146	147	136
Feb.	79	145	169	176	127	136	148	138	147	150	138
Mar.	79	146	171	180	128	136	150	138	149	152	138
Apr.	79	144	171	184	128	137	152	137	148	153	139
May	79	145	174	186	129	138	154	137	149	154	140
June	79	144	174	189	130	139	155	138	149	156	141
July	79	144	175	191	129	141	156	138	150	157	142
Aug.	79	144	176	192	128	143	158	140	150	158	143
Sept.	79	146	178	194	129	144	159	140	152	159	144
Oct.	79	144	177	194	129	145	158	140	151	160	144
Nov.	79	142	178	196	129	144	159	142	150	160	145
Dec.	79	143	179	202	128	146	159	142	152	162	145
Jan.	80	144	183	210	128	146	162	143	154	165	146
Feb.	80	144	183	219	129	146	162	145	155	168	146
Mar.	80	141	180	218	128	149	164	145	153	168	148
Apr.	80	135	179	220	128	148	164		150	168	147
May	80	132	180	218			163		148		
June	80	134									
						Percent Change from Preceding Year					
Jan.	79	4	11	14	2	7	8	4	6	8	6
Feb.	79	4	12	16	3	7	9	6	7	10	7
Mar.	79	5	12	18	3	7	9	6	7	10	7
Apr.	79	3	12	20	4	7	10	5	6	11	7
May	79	3	12	20	4	7	11	4	7	11	7
June	79	2	12	20	5	8	10	5	6	11	7
July	79	1	11	21	4	8	11	4	6	11	7
Aug.	79	1	10	20	3	9	10	5	6	11	8
Sept.	79	2	10	19	3	9	10	4	6	11	7
Oct.	79	0	9	18	3	9	9	4	4	10	7
Nov.	79	−1	9	16	3	8	9	5	4	10	7
Dec.	79	−1	8	18	2	8	8	5	4	10	6
Jan.	80	0	9	21	2	8	9	5	5	11	6
Feb.	80	0	8	24	2	7	8	6	5	11	6
Mar.	80	−3	6	22	1	8	9	6	4	11	6
Apr.	80	−7	4	20	0	7	8		1	10	5
May	80	−9	4	18			6		−1		
June	80	−7									
						Ten-Year Annual Growth Rate, Percent					
1966-76		3	5	8	2	4	5	4	4	5	4

time the business cycle reaches its peak, but again may signify only a slowdown ahead. The third signal, if and when it occurs, confirms with a high degree of certainty that a recession has started, usually a few months after the recession has begun. False signals can occur if the economy is depressed by a strike or some other temporary factor that has substantial and widespread consequences.

The search is now on for reliable signs of a reversal in the direction of U.S. economic activity. A comparable sequence of criteria designed to reveal the end of a recession has been established, but as of this writing, with data available through June, the first signal of recovery has not yet been observed.

The method is still being tested and may be modified as the research proceeds. A full description explaining the rationale of the signals and their record of performance in the United States in all slowdowns and recessions since 1949 and in the other countries during the 1973-75 recession will be completed next month, and copies will be available upon request to Geoffrey H. Moore at the address shown below.

THE INTERNATIONAL ECONOMIC INDICATOR SYSTEM

This bimonthly Conference Board report on the business outlook in seven major industrial countries is based on an analytical system of leading, coincident and lagging indicators, first developed in the 1930's by the National Bureau of Economic Research, which has become widely used in the United States to appraise the state of the business cycle. Since 1961 U.S. figures for these indicators have been published monthly by the U.S. Department of Commerce in *Business Conditions Digest*. Similar systems have been developed in Canada, Japan, the United Kingdom and a few other countries, but because of differences in content or methodology the results are not closely comparable. In an effort to establish greater comparability and broaden the coverage, a new set of indicators for seven major industrial countries was recently developed by Geoffrey H. Moore of the NBER and Philip A. Klein of Pennsylvania State University. They are being kept up to date, analyzed, and circulated to subscribers by the Center for International Business Cycle Research at Rutgers University in Newark, New Jersery.

The leading indexes shown here are composites based on a total of some 65 indicators that usually anticipate changes in national output or employment by several months. New orders, contracts for construction, corporate profits, stock prices, new business enterprises or business failures, and changes in consumer debt are among the indicators included for each country whenever available. (The U.S. leading index used here differs somewhat in composition from the index reported monthly by the U.S. Department of Commerce.) Experience has demonstrated that these indicators are helpful in tracking an economic recession or recovery, in revealing factors that are retarding expansion or leading to recession, in anticipating changes in foreign trade flows, and in providing early warning of new inflationary trends. To facilitate analysis the indexes shown in the charts are adjusted so that their long-run growth rates are equal to those in real GNP in the country concerned during 1966-76 (shown at the bottom of the table and by horizontal lines on the charts; the growth rate for each index is encircled on the chart).

For More Information

To find out more about this indicator system and its uses, and about the availability of the current data, please address inquiries to

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